

Amendment and Claim Listing

Please amend claim 1 as follows:

Claim 1 (currently amended) 1. A curing light comprising:

- a housing for housing components of a curing light,
- air space within said housing,
- at least one vent located on said housing,
- a secondary heat sink located within said housing, said heat sink having a proximal and a distal side,
- a thermoelectric cooler to assist in heat dissipation located on said secondary heat sink proximal side,
- a fan located within said housing, said fan being capable of causing air to move past said thermoelectric cooler in order to improve heat dissipation,
- a plurality of light emitting semiconductor modules located on said heat sink distal side, each of said semiconductor modules including
 - a primary heat sink,
 - a semiconductor chip which emits light of a wavelength useful for curing light curable composite materials, said chip being affixed to said primary heat sink,
 - a cover serving to protect said chip,
 - a reflective light collecting device ~~light reflective device~~ which collects light emitted by said semiconductor modules and reflects it as an unfocused light beam onto a focusing lens ~~focuses it into a light beam~~,
 - a focusing lens which serves to receive an unfocused light beam from said reflective light collecting device and focus said unfocused light beam from said light reflective device ~~from said light reflective device~~ onto a light transport device as a focused light beam,
 - a light transport device for transporting said focused light beam ~~light~~ to a remote location for use in curing, and

a handpiece on said housing for applying focused light delivered by said light transport device to a material to be cured.

Claim 2 (original) 2. A curing light as recited in claim 1 wherein said light transport device is selected from the group consisting of a plastic stack, a fiber bundle and a light guide.

Claim 3 (original) 3. A curing light as recited in claim 1 wherein said semiconductor chip is selected from the group consisting of light emitting diode chips, laser chips, light emitting diode chip array, diode laser chips, diode laser chip arrays, surface emitting laser chips, edge emitting laser chips, and VCSEL chips.

Claim 4 (original) 4. A curing light as recited in claim 1 wherein said handpiece has controls for initiating and terminating emission of light from said handpiece.

Claim 5 (original) 5. A curing light as recited in claim 1 wherein said light reflective device has a light reflective interior surface and wherein said light reflective interior surface includes a material selected from the group consisting of Al, Au, Ag, Zn, Cu, Pt, chrome, other metals, plating, and plastic.

Claim 6 (original) 6. A curing light as recited in claim 1 wherein light output from said handpiece is in the range of from about 800 mw/cm² to about 2000 mw/cm².

Please amend claim 7 as follows:

Claim 7 (currently amended) 7. A curing light comprising:
a housing for housing components of a curing light,
a heat sink located within said housing, said heat sink having a proximal and a distal side,
a thermoelectric cooler to assist in heat dissipation located on said secondary heat sink proximal side,

a fan located within said housing, said fan being capable of causing air to move past said thermoelectric cooler in order to improve heat dissipation,

at least one semiconductor chip which can emit light of a wavelength useful for curing light curable composite materials,

said heat sink and said thermoelectric cooler serving to dissipate heat produced by said chip,

a reflective light collecting device ~~light reflective device~~ which collects light emitted by said semiconductor modules and reflects it as an unfocused light beam onto a focusing lens ~~focuses it into a light beam~~,

a focusing lens which serves to receive an unfocused light beam from said reflective light collecting device and focus said unfocused light beam from said light reflective device onto a light transport device as a focused light beam,

a light transport device for transporting said focused light beam ~~light~~ to a remote location for use in curing,

a handpiece on said housing for applying focused light delivered by said light transport device to a material to be cured, and

a handpiece on said housing for applying light delivered by said light transport device to a material to be cured.

Claim 8 (original) 8. A curing light as recited in claim 7 wherein said light transport device is selected from the group consisting of a plastic stack, a fiber bundle and a light guide.

Claim 9 (original) 9. A curing light as recited in claim 7 wherein said semiconductor chip is selected from the group consisting of light emitting diode chips, laser chips, light emitting diode chip array, diode laser chips, diode laser chip arrays, surface emitting laser chips, edge emitting laser chips, and VCSEL chips.

Claim 10 (original) 10. A curing light as recited in claim 7 wherein said handpiece has controls for initiating and terminating emission of light from said handpiece.

Claim 11 (original) 11. A curing light as recited in claim 7 wherein said light reflective device has a light reflective interior surface and wherein said light reflective interior surface includes a material selected from the group consisting of Al, Au, Ag, Zn, Cu, Pt, chrome, other metals, plating, and plastic.

Please amend claim 12 as follows:

Claim 12 (currently amended) 12. A curing light comprising:
a housing for housing components of a curing light,
a heat sink located within said housing, said heat sink having a proximal and a distal side,
at least one semiconductor chip which can emit light of a wavelength useful for curing light curable composite materials,
said heat sink serving to dissipate heat produced by said chip,
a reflective light collecting device ~~light reflective device~~ which collects light emitted by said semiconductor modules and reflects it as an unfocused light beam onto a focusing lens ~~focuses it into a light beam~~,
a focusing lens which serves to receive an unfocused light beam from said reflective light collecting device and focus said unfocused light beam ~~from said light reflective device~~ onto a light transport device as a focused light beam,
a light transport device for transporting said focused light beam ~~light~~ to a remote location for use in curing,
a handpiece on said housing for applying focused light delivered by said light transport device to a material to be cured, and
a handpiece on said housing for applying light delivered by said light transport device to a material to be cured.

Claim 13 (original) 13. A curing light as recited in claim 12 wherein said light transport device is selected from the group consisting of a plastic stack, a fiber bundle and a light guide.

Claim 14 (original) 14. A curing light as recited in claim 12 wherein said semiconductor chip is selected from the group consisting of light emitting diode chips, laser chips, light emitting diode chip array, diode laser chips, diode laser chip arrays, surface emitting laser chips, edge emitting laser chips, and VCSEL chips.

Claim 15 (original) 15. A curing light as recited in claim 12 wherein said handpiece has controls for initiating and terminating emission of light from said handpiece.

Claim 16 (original) 16. A curing light as recited in claim 12 wherein said light reflective device has a light reflective interior surface and wherein said light reflective interior surface includes a material selected from the group consisting of Al, Au, Ag, Zn, Cu, Pt, chrome, other metals, plating, and plastic.

Please amend claim 17 as follows:

Claim 17 (currently amended) 17. A curing light comprising:
a housing for housing components of a curing light,
a heat sink located within said housing, said heat sink having a proximal and a distal side,
at least one semiconductor chip which can emit light of a wavelength useful for curing light curable composite materials,
said heat sink serving to dissipate heat produced by said chip,
a reflective light collecting device which collects light emitted by said semiconductor modules and reflects it as an unfocused light beam onto a focusing lens,
a focusing lens which serves to receive an unfocused light beam from said reflective light collecting device and focus said unfocused light beam onto a light transport device as a focused light beam,
~~a light focusing device which serves to focus said chip onto a light transport device,~~
a light transport device for transporting said focused light beam light to a remote location for use in curing, and

a handpiece on said housing for applying focused light delivered by said light transport device to a material to be cured

Claim 18 (original) 18. A curing light as recited in claim 17 wherein said semiconductor chip is selected from the group consisting of light emitting diode chips, laser chips, light emitting diode chip array, diode laser chips, diode laser chip arrays, surface emitting laser chips, edge emitting laser chips, and VCSEL chips.

Claim 19 (original) 19. A curing light as recited in claim 17 wherein said handpiece has controls for initiating and terminating emission of light from said handpiece.

Claim 20 (original) 20. A curing light as recited in claim 17 wherein said light transport device includes a fiber.